



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,742	10/17/2003	Junichi Miyakawa	041514-5312	8295
9629	7590	05/17/2005		
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			EXAMINER LESPERANCE, JEAN E	
			ART UNIT	PAPER NUMBER
			2674	
DATE MAILED: 05/17/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,742

Applicant(s)

MIYAKAWA ET AL.

Examiner

Jean E Lesperance

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/24/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on 1/27/2005 is entered and claims 1 to 6 are pending.
2. The amendment of the drawings filed on 1/27/2005 is accepted.
3. The information disclosure statement filed on 1/24/2005 is considered.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 USC 102 (b) as being unpatentable over the admitted prior art (Fig.1).

As to claim 1, Admitted prior art teaches an organic EL elements are arranged in a matrix (n rows x m columns) in an organic EL display panel 1 corresponding to a display panel; each of the switching elements Sa1 to Sam is controlled in accordance with an anode driver control signal that is supplied from a control circuit corresponding to a control circuit; anode driver control signal IC-2 corresponding to a column electrode driving circuit; cathode driver control circuit IC-3 corresponding to a row electrode driver circuit; and a reset period in synchronization with a line synchronization pulse included in the anode driver control signal, all switching elements of the anode driver IC-2 and cathode driver IC-3 are switched to a pull-down resistor side so as to uniform residual

charges in all parasitic capacitances corresponding to set period supplies a first reset potential to each of said plurality of column lines and a second reset potential to each of said plurality of row electrode lines.

As to claim 2, Admitted prior art (Fig.1) teaches in a light emission period, the switching element corresponding to a scanned line (row) in the cathode driver IC 3 is selected and is maintained in the selection state of the pull-down resistor side. On the other hand, the other switching elements of the non-scan lines are switched to the pull-up resistor R_c side (page 3, lines 7-10) corresponding to said first and second reset potentials, said non-light emission control potential, said selection potential are equal to a ground potential, and said non-selection potential is greater than the ground potential.

As to claim 3, Admitted prior art (Fig.1) teach in the anode driver IC 2, any switching elements corresponding to EL elements to be driven are switched in accordance with the anode driver control signal supplied from the control circuit, the constant current circuits CC_g are connected to the column electrode lines, and the other column electrode lines corresponding to non-light emission elements are connected to the ground via the pull-down resistors R_a (Page 3, lines 13-19) corresponding to a number of repeats of said reset period and said light emission period in each of said cycles is adjusted in accordance with a gradation of said image signal.

As to claim 4, Admitted prior art (Fig.1) teaches a reset period in synchronization with a line synchronization pulse included in the anode driver control signal, all switching elements of the anode driver IC-2 corresponding to said column electrode driver circuit supplies the first reset potential or the non-light emission control potential

to said plurality of column electrode lines through resistor elements each of which is adjusted in accordance with a gradation of said image signal.

As to claim 5, Admitted prior art (Fig.1) teaches a conventional organic EL display panel corresponding to said light emitting elements are organic electroluminescence elements.

As to claim 6, Admitted prior art (Fig.1) teaches a reset period in synchronization with a line synchronization pulse included in the anode driver control signal, all switching elements of the anode driver IC-2 and cathode driver IC-3 are switched to a pull-down resistor side so as to uniform residual charges in all parasitic capacitances corresponding to generating a column drive control signal and a row drive control signal for each one cycle having a reset period and a light emission period in accordance with an input image signal, the row drive control signal indicating, as a scan line, one line of said plurality of row electrode lines and the column drive control signal indicating, as a light emission column electrode line corresponding to a capacitive light emitting element driven to emit light on said scan line, at least one line of a plurality of column electrode lines; Each of the constant current driving circuits CCg is a constant current driving circuit having an output stage transistor is for example a PMOS-FET, and supplies a constant current signal to the organic EL elements, which serve as loads, on the basis of a voltage V_a that is supplied from an anode driver power circuit (not shown). The pull-down resistors R_a are connected to a ground (Page 2, lines 13-19) corresponding to setting a potential of each of said plurality of column electrode lines in accordance with the column drive control signal; and Each of the switching

elements Sc1 to Scn is controlled in accordance with a cathode driver control signal that is supplied from the control circuit. The pull-up resistors Rc are connected to a supply line of a voltage Vc that is supplied from a cathode driver power circuit (not shown) (Page 2, lines 22-27) corresponding to setting a potential of each of said plurality of row electrode lines in accordance with the row drive control signal; a reset period in synchronization with a line synchronization pulse included in the anode driver control signal, all switching elements of the anode driver IC-2 and cathode driver IC-3 are switched to a pull-down resistor side so as to uniform residual charges in all parasitic capacitances corresponding to wherein in said reset period, a first reset potential is supplied to each of said plurality of column electrode lines and a second reset potential is supplied to each of said plurality of row electrode lines, and in said light emission period, the light emission column electrode line is opened and a non-light emission control potential is supplied to column electrode lines other than the light emission column electrode line of said plurality of column electrode lines, a selection potential is supplied to the scan line and a non-selection potential is supplied to row electrode lines other than the scan line of said plurality of row electrode lines.

Response to Amendment

5. Applicant's arguments filed 1/27/2005 have been fully considered but they are not persuasive. The applicant argued that the prior art does not teach "wherein said column electrode driver circuit, . . . in said light emission period, opens the light emission column electrode line and supplies a non-light emission control potential to

Art Unit: 2674

column electrode lines other than the light emission column electrode line of said plurality of column electrode lines" and "wherein said row electrode driver circuit, . . . in said light emission period, supplies a selection potential to the scan line and supplies a non-selection potential to row electrode lines other than the scan line of said plurality of row electrode lines". Examiner disagrees with the applicant because the admitted prior art teaches a column electrode driver circuit (2), which includes a plurality of switches and a row electrode driver circuit (3), which also includes a plurality of switches. Those switches can provide different combinations of the light emission control (reset, illumination and non-illumination). For example, if V_c is greater than V_a , there is a reset period and so on. If S_{a1} is open and S_{cn} switch is connected to R_g , there is a light emission where the storage of the capacitance will light the light emitting element. The storage of the capacitance in that case represents the leak current of the parasitic capacitor. The applicant argued that the prior art does not teach "a leak current flows into the capacitive light emitting element driven to emit light. as a drive current. via parasitic capacitors of the capacitive light emitting elements connected between said row electrode lines other than the scan line and the light emission column electrode line in said light emission period". Examiner disagrees with the applicant because the prior art teaches when S_{a1} is open and S_{cn} switch is connected to R_g , there is a light emission where the storage of the capacitance will light the light emitting element. The storage of the capacitance in that case represents the leak current of the parasitic capacitor. Therefore, the rejection is maintained.

Conclusion

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Lesperance whose telephone number is (571) 272-7692. The examiner can normally be reached on from Monday to Friday between 10:00AM and 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard, can be reached on (571) 272-7603.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

Art Unit: 2674

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive, Arlington, VA, Sixth Floor (Receptionist).

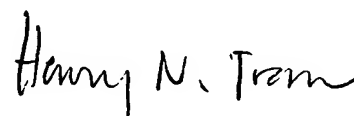
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Jean Lesperance



Art Unit 2674

Date 5/13/2005



HENRY N. TRAN
PRIMARY EXAMINER